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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use	)	ET Docket No. 94-32

COMMENTS OF BELL ATLANTIC[1]

Bell Atlantic suggests two changes to the proposed reallocation to the private sector of 50 MHz of spectrum currently allocated to the federal government. These changes would be consistent with the Commission's objective "to ensure that the spectrum is put to its best and most valued use and that the greatest benefit to the public is attained."[2]

First, a portion of this spectrum, the 2390-2400 MHz band, should be allocated exclusively to wireless local loop services. Such an allocation would make available additional wireless resources for a range of local services. Second, and

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[1] The Bell Atlantic telephone companies ("Bell Atlantic") are Bell Atlantic-Delaware, Inc.; Bell Atlantic-Maryland, Inc.; Bell Atlantic-New Jersey, Inc.; Bell Atlantic-Pennsylvania, Inc.; Bell Atlantic-Virginia, Inc.; Bell Atlantic-Washington, D.C., Inc.; and Bell Atlantic-West Virginia, Inc.

[2] ***Notice of Proposed Rulemaking***, FCC 94-272 at ¶ 8 (rel. Nov. 8, 1994) ("Notice").

for the same reason, the Commission should reallocate the 2300-2310 MHz band now for pairing with the 2390-2400 MHz band.[3]

I. There Is a Public Need For Wireless Local Loop Services.

As local exchange carriers ("LECs") continue to upgrade their networks to enable them to offer services as part of the National Information Infrastructure ("NII"), they must have access to a variety of technological alternatives, including wireless technologies. They should be in a position of using the most efficient and economical combination of technologies to support each of a wide variety of local loop services.[4]

Wireless technology can reduce installation and maintenance costs, particularly in sparsely-populated rural communities and other high cost areas. Further it can enable new services to be offered in these areas, such as advanced wireless data services and services which require "bandwidth on demand."[5] Wireless local loop technology can also be used as a more timely,

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[3] The 2300-2310 MHz band is currently scheduled for reallocation in January 1996. Bell Atlantic's proposal would require the Commission to advance that schedule.

[4] Any entity authorized to provide local loop services in a particular jurisdiction should be eligible to obtain licenses to use the spectrum addressed in these Comments.

[5] The channel access methodology used with wireless local loop technology permits multiple radio channels to be accessed simultaneously. As a result, the spectrum needed for services that require greater or lesser amounts of bandwidth can be accessed on demand.

and less costly, method of providing certain emergency and temporary services.

The Commission should, therefore, allocate the 2390-2400 MHz band to wireless local loop services, as Southwestern Bell Corporation ("SBC") proposed in its comments on the Notice of Inquiry in this proceeding.[6] Of the parties' suggestions for allocating the 2390-2400 MHz band, the SBC proposal provides the greatest potential benefit to the greatest number of customers and is the best means of advancing the Commission's stated goal of "providing for the introduction of new services and the enhancement of existing services."[7]

II. No Currently Allocated Spectrum Is Suitable For Local Loop Services.

No existing allocation provides sufficient spectrum resources, and the technical and operational flexibility, that is needed for local loop services. Of other potential candidates for loop services, limitations of the Rural Radio Service make it unsuitable for most local loop applications.[8] For example, less than 4 MHz of spectrum, spread across three separate bands, is

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[6] Comments of Southwestern Bell Corporation (filed June 15, 1994) ("SBC Comments").

[7] Notice at ¶ 1.

[8] *See* 47 C.F.R., Part 22, Subpart H.

assigned to this service.[9] Further, much of this spectrum is shared with paging and other public mobile services. A minimum of 10 MHz of clear spectrum, all residing in the same band, is required for a viable wireless local loop system. Similarly, the PCS spectrum currently being auctioned is limited to mobile applications except on an ancillary basis.[10]

The 2390-2400 MHz band is particularly well suited for wireless local loop service, both from an economic as well as a technical perspective. Due to their frequency propagation characteristics, higher frequencies would require a larger number of base stations to cover the same geographic area, thus resulting in higher costs. Higher frequency systems are also more susceptible to fading, and thus might experience more frequent service outages than those operating on lower frequencies. Use of the 2390-2400 MHz band might also result in production efficiencies due to the close proximity to the PCS band.

While the 2402-2417 MHz band, which the Commission also plans to reallocate, has comparable propagation characteristics, its current use for Industrial, Scientific, and Medical ("ISM") applications makes it infeasible for wireless local loops. This is because devices such as microwave ovens, which use these frequencies, would likely cause unacceptable interference with

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[9] Spectrum allocated to the Rural Radio Service includes VHF channels in the 150 MHz band, and UHF channels in the 450 MHz and 800 MHz bands.

[10] *See* 47 C.F.R. § 24.3.

wireless local loop services, particularly in residential areas. Conversely, the wireless local loop systems might cause unacceptable interference to the unlicensed (Part 15) communications devices operating in this band.

III. The Commission Should Pair The 2390-2400 MHz Band With The 2300-2310 MHz Band For Local Loop Services.

An unpaired allocation for wireless local loop service, i.e., only the 2390-2400 MHz band, would not make the most efficient use of this band. Such an allocation would necessitate use of Time Division Duplex ("TDD") technology, which presents a number of disadvantages. As SBC has demonstrated, these disadvantages include greater sensitivity to delay spread, inefficient use of spectrum, and wide area synchronization requirements.[11]

An allocation which pairs the 2390-2400 MHz band with an equivalent amount of spectrum in a comparable band would enable the use of Frequency Division Duplex ("FDD") technology, which avoids the disadvantages of TDD. Use of FDD, therefore, would improve the band's utility for wireless local loop services, and allow it to be used more efficiently. To facilitate such a paired allocation, the Commission should advance its proposed schedule for reallocating the 2300-2310 MHz

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[11] SBC Comments at 5.

band, and this band should be paired with the 2390-2400 MHz band for use with wireless local loop services.[12]

IV. A Broad Allocation of the Band Will Not Allow Its Most Efficient Use.

The Commission proposed a broad and general allocation that would designate this spectrum for general Fixed and Mobile services.[13] While such an allocation might offer greater flexibility, it would not provide a technically suitable environment for the development of new wireless loop services. Interference and coordination problems, which would likely result under the Commission's proposal, would be minimal under an exclusive allocation plan. Further, an exclusive allocation would provide potential manufacturers of equipment that would be used with new wireless services with greater assurance that a particular service could be economically viable.

V. Licensing and Operational Rules Should Facilitate Wireless Local Loop Services.

A viable wireless local loop service requires a minimum of 10 MHz of spectrum (5 MHz in the lower band paired with 5 MHz in the upper band). This amount of spectrum is necessary to

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[12] Even if the reallocation of the 2300-2310 MHz band cannot be advanced, the Commission should immediately allocate the 2390-2400 MHz band for wireless local loop services and delay licensing until the 2300-2310 MHz band becomes available.

[13] Notice at ¶ 8.

provide sufficient system capacity and to support a variety of wireless technologies, e.g., Code Division Multiple Access ("CDMA"). Consequently, the Commission should adopt channel blocks for the 2390-2400 MHz and 2300-2310 MHz bands that are no smaller than 10 MHz in size. In addition, the geographical coverage of the licenses should closely match the service areas of local exchange service providers. Therefore, the Commission should not adopt the same licensing areas as it has used to award PCS licenses (i.e., BTAs and MTAs) but should allocate licenses that closely match local exchange areas.

The operational rules should promote maximum flexibility in operating wireless local loop services. For example, because the needs of the public and the available wireless facilities vary widely, there should not be fixed build-out requirements similar to those in the PCS rules.

VII. Conclusion.

Accordingly, Bell Atlantic urges the Commission to reallocate the 2390-2400 MHz band exclusively for wireless local loop services. The Commission should also advance its schedule for reallocating the 2300-2310 MHz band and specify that it be paired with the 2390-2400 MHz band for wireless loops.

Respectfully submitted,

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